QC ABSTRACT

NAME OF WORK: "Improvements and Asphalting to Roads at Synika Vihara Badavane Main Road in Chowdeshwari Ward No -02 of Yelahanka Sub Division"

SL NO	Item Of Work	Name of Test	Frequency of Test/Quantity	Executed Quantity	Number of Tests Required	Number of Tests Conducted
		Materials				
1	Cement	Fineness by dry sieving	One Test		1	1
		Finess by Air permeablity method	One Test		1	1
		Density	One Test		1	1
		Standard Consistency	One Test		1	1
		Initial Setting time	One Test		1	1
		Final Setting time	One Test		1	1
		Soundness (Le Chatelier's Method)	One Test		1	1
		Compressive Strength	One Test		1	1
2	Coarse aggregate(40 mm down size)	SIEVE ANALYSIS	One Test		1	1
		Flakiness Index	One Test		1	1
		Elongation Index	One Test		1	1
		Specific Gravity	One Test		1	1
		Bulk Density(Loose)	One Test		1	1
		Bulk Density(Compacted)	One Test		1	1
		Water Absorption	One Test		1	1
3	Coarse aggregate(20 mm down size)	SIEVE ANALYSIS	One Test		1	1
		Flakiness Index	One Test		1	1
		Elongation Index	One Test		1	1
		Specific Gravity	One Test		1	1
		Bulk Density(Loose)	One Test		1	1
		Bulk Density(Compacted)	One Test		1	1
		Water Absorption	One Test		1	1
		Aggregate crushing Value	One Test		1	1
		Aggregate Impact Value	One Test		1	1
4	Fine aggregate	SIEVE ANALYSIS	One Test		1	1
		Water Absorption	One Test		1	1
		Specific Gravity	One Test		1	1
		Material finer than 75 micron	One Test		1	1
	Steel	Bend test	One Test		1	1
		Tensile Test	One Test		1	1
		Yield Test	One Test		1	1
		ReBend test	One Test		1	1
	Precast (100mm)	Core Compressive Strength	One Test		1	1
		Corrected Cylinder Compressive Strength	One Test		1	1
		Equivalent Cube Compressive Strength	One Test		1	1
7	Precast (250mm)	Core Compressive Strength	One Test		1	1
		Corrected Cylinder Compressive Strength	One Test		1	1
		Equivalent Cube Compressive Strength	One Test		1	1
8	RCC(M20)	Compressive Strength(7days and 28days)	5 set /51-100 cum	57.6	10	10

AE-02

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TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID	:	CP-2020-11-24-54 **Date: 09-07-20**
Customer	:	Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.
Address	:	Yelahanka Sub Division, BBMP, Bangalore.
Project Name	:	"Improvements and Asphalting to Roads at Synika Vihara Badavane Main Road in Chowdeshwari Ward No -02 of Yelahanka Sub Division"
Agency	:	Sri. N. Thirunagendra, No:184, Besthara Beedhi, Yelahanka Old Town, Bangalore-560064
Customer's Reference	:	BBMP/EE/YNK.D/EPMT-01/W.O/87/2020-21
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	06-07-20
Sample Type	:	Birla Super 53grade
Reference to BIS codes	:	IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification , IS 4031 (Part 1,2 3,4,5, 6,11):1988 IS 4031 Part 1 DETERMINATION OF FINENESS BY DRY SIEVING, Clause 4.4 IS 4031 Part 2, Determination of Fineness by Blaine Air Permeability Method, Clause 5 IS 4031 Part 3, Determination of Soundness, Clause 5,Clause 6 IS 4031 Part 4, Determination of Consistency of Standard Cement Paste, Clause 5 IS 4031 Part 5, Determination of Initial & Final Setting Time, Clause 5 IS 4031 Part 11,DETERMINATION OF DENSITY , Clause 6
Date of test	:	07-07-20
Environmental Conditions during test	:	Temperature: 26°C Humidity: 72%

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Sl.No.	Physical properties	Results	Requirement as per IS 12269: 2013
1	Fineness by dry sieving (%)	1.22	–
2	Finess by Air permeablity method (m^2/kg,Min)	289.5	225m^2/kg, Min
3	Density (gm/cc)	3.11	–
4	Standard Consistency (%)	27.5%	Not specified
5	Initial Setting time	170 minutes	Not less than 30 minutes
6	Final Setting time	260 minutes	Not more than 600 minutes
7	Soundness (Le Chatelier's Method)	1.5mm	Not more than 10 mm

* The results obtained are satisfactory as per standard requirements.

Note:

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Technical Manager

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TEST REPORT ON COARSE AGGREGATES

Lab ID	:	**CP-2020-11-24-54** **Date: 09-07-20**
Customer	:	Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.
Address	:	Yelahanka Sub Division, BBMP, Bangalore.
Project Name	:	"Improvements and Asphalting to Roads at Synika Vihara Badavane Main Road in Chowdeshwari Ward No -02 of Yelahanka Sub Division"
Agency	:	Sri. N. Thirunagendra, No:184, Besthara Beedhi, Yelahanka Old Town, Bangalore-560064
Customer's Reference	:	BBMP/EE/YNK.D/EPMT-01/W.O/87/2020-21
Source of Sample	:	Sample supplied by Agency
Sample condition	:	Satisfactory
Date of Receipt	:	06-07-20
Sample Type	:	40mm down size coarse aggregate
Reference to BIS codes	:	IS: 383:2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1,3,4) RA2011 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption IS 2386 Part 4: Mechanical Properties
Date of test	:	06-07-20

AE-2

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 40MM DOWN COARSE AGGREGATE:

Total weight taken : **15000 grams**

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Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	80 mm	0	0	0.0	100	100
2	40 mm	242	242	1.6	98.4	90-100
3	20 mm	7152	7394	49.3	50.7	30-70
4	10 mm	3885	11279	75.2	24.8	10-35
5	4.75 mm	3205	14484	96.6	3.4	0-5
6	Pan	516	15000	100.0	0	---

AE-02

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TEST REPORT OF FINE AGGREGATE

Date: 08-07-20

Lab ID	:	CP-2020-11-24-54
Customer	:	Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.
Address	:	Yelahanka Sub Division, BBMP, Bangalore.
Project Name	:	"Improvements and Asphalting to Roads at Synika Vihara Badavane Main Road in Chowdeshwari Ward No -02 of Yelahanka Sub Division"
Agency	:	Sri. N. Thirunagendra, No:184, Besthara Beedhi, Yelahanka Old Town, Bangalore-560064
Customer's Reference	:	BBMP/EE/YNK.D/EPMT-01/W.O/87/2020-21
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	06-07-20
Sample Type	:	Fine Aggregate
Reference to BIS codes	:	IS 383 : 2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1, 3) RA2012 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption
Date of test	:	06-07-20
Total weight taken	:	1000 grams

Sl.no	Sieve Size	Weight Retained (gms)	Cumulative Weight Retained (gms)	% Cumulative Weight Retained	% Passing	Requirement as per IS 383:2016			
						Grading Zone I	Grading Zone II	Grading Zone III	Grading Zone IV
1	10 mm	0	0	0.0	100.0	100	100	100	100
2	4.75 mm	86	86	8.6	91.4	90-100	90-100	90-100	95-100
3	2.36 mm	145	231	23.1	76.9	60-95	75-100	85-100	95-100
4	1.18 mm	156	387	38.7	61.3	30-70	55-90	75-100	90-100
5	600 micron	188	575	57.5	42.5	15-34	35-59	60-79	80-100
6	300 micron	175	750	75.0	25.0	5-20	8-30	12-40	15-50
7	150 micron	162	912	91.2	8.8	0-10	0-10	0-10	0-15
8	Pan	88	1000	100.0	0.0	---	---	---	---
Result :The tested Sample Conforms to Grading Zone II									

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TEST RESULTS OF STEEL

Lab ID	:	**CP-2020-11-24-54** **Date: 07-07-20**
Customer	:	Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.
Address	:	Yelahanka Sub Division, BBMP, Bangalore.
Project Name	:	"Improvements and Asphalting to Roads at Synika Vihara Badavane Main Road in Chowdeshwari Ward No -02 of Yelahanka Sub Division"
Agency	:	Sri. N. Thirunagendra, No:184, Besthara Beedhi, Yelahanka Old Town, Bangalore-560064
Customer's Reference	:	BBMP/EE/YNK.D/EPMT-01/W.O/87/2020-21
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	06-07-20
Sample Type	:	Sunvik
Reference to BIS codes	:	IS 1786-2008, IS:1608-2005(RA 2011), IS 1599-2012.
Date of test:	:	06-07-20

Sl.No	Identification of sample	Grade of the sample	Diameter of the steel bar	Weight of the sample	Yield stress	Tensile strength	Elongation	Bend test	Rebend test
			(mm)	(kg/m)	(N/mm2)	(N/mm2)	(%)		
1	Sunvik	Fe500	8	0.391	512	652	20.0%	Satisfactory	Satisfactory
2	Sunvik	Fe500	10	0.616	528	672	20.0%	Satisfactory	Satisfactory
3	Sunvik	Fe500	12	0.888	544	668	20.0%	Satisfactory	Satisfactory

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Technical Manager

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TEST REPORT OF PRECAST COVER SLAB

Lab ID	:	**CP-2020-11-24-54** **Date: 25-07-20**
Customer	:	Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.
Address	:	Yelahanka Sub Division, BBMP, Bangalore.
Project Name	:	"Improvements and Asphalting to Roads at Synika Vihara Badavane Main Road in Chowdeshwari Ward No -02 of Yelahanka Sub Division"
Agency	:	Sri. N. Thirunagendra, No:184, Besthara Beedhi, Yelahanka Old Town, Bangalore-560064
Customer's Reference	:	BBMP/EE/YNK.D/EPMT-01/W.O/87/2020-21
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	21-07-20
Sample Type /Size	:	Precast Cover Slab (250mm)
Reference to BIS codes	:	IS: 516 - 1959 Methods of Tests for Strength of Concrete
Date of test	:	21/07/2020

Sl. No.	Identification Mark	Diameter of the core	Height of the core	Weight of the core	Area	Failure Load	Core Compressive strength	Corrected Cylinder Compressive strength	Equivalent Cube Compressive strength
		(mm)	(mm)	(kg)	(Sq.mm)	(KN)	(N/mm^2)	(N/mm^2)	(N/mm^2)
1	Cover Slab-1	200.51	250.48	3.116	31570	230.9	7.3	6.8	8.5
2	Cover Slab-2	200.49	250.52	3.122	31564	232.3	7.4	6.8	8.6
3	Cover Slab-3	200.50	250.51	3.118	31567	231.5	7.3	6.8	8.5

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID	:	**CP-2020-11-24-54** **Date: 21/07/2020**
Customer	:	Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.
Address	:	Yelahanka Sub Division, BBMP, Bangalore.
Project Name	:	"Improvements and Asphalting to Roads at Synika Vihara Badavane Main Road in Chowdeshwari Ward No -02 of Yelahanka Sub Division"
Agency	:	Sri. N. Thirunagendra, No:184, Besthara Beedhi, Yelahanka Old Town, Bangalore-560064
Customer's Reference	:	BBMP/EE/YNK.D/EPMT-01/W.O/87/2020-21
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	16-07-20
Customer ID	:	Drain Bottom Slab Concrete
Sample Type /Size	:	150X150X150 mm
Sample grade/Age	:	M20 / 7 Days Compressive Strength
Reference to BIS codes	:	IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5
Date of test	:	21/07/2020

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Bottom Slab Concrete	M20	14/07/2020	21/07/2020	151.12 X 150.27 X 151.18	22709	8.277	430.6	19.0	18.8
2	Drain Bottom Slab Concrete	M20	14/07/2020	21/07/2020	150.99 X 151.87 X 150.19	22931	8.026	430.0	18.8	
3	Drain Bottom Slab Concrete	M20	14/07/2020	21/07/2020	151.44 X 150.44 X 151.82	22782	8.708	422.9	18.6	

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID	:	CP-2020-11-24-54
Customer	:	Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.
Address	:	Yelahanka Sub Division, BBMP, Bangalore.
Project Name	:	"Improvements and Asphalting to Roads at Synika Vihara Badavane Main Road in Chowdeshwari Ward No -02 of Yelahanka Sub Division"
Agency	:	Sri. N. Thirunagendra, No:184, Besthara Beedhi, Yelahanka Old Town, Bangalore-560064
Customer's Reference	:	BBMP/EE/YNK.D/EPMT-01/W.O/87/2020-21
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	20-07-20
Customer ID	:	Drain Side Wall Concrete
Sample Type /Size	:	150X150X150 mm
Sample grade/Age	:	M20 / 7 Days Compressive Strength
Reference to BIS codes	:	IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5
Date of test	:	24/07/2020

Date: 24/07/2020

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Side Wall Concrete	M20	17/07/2020	24/07/2020	149.62 X 151.91 X 149.81	22730	8.277	426.2	18.7	18.6
2	Drain Side Wall Concrete	M20	17/07/2020	24/07/2020	150.42 X 149.48 X 149.02	22484	8.026	415.4	18.5	
3	Drain Side Wall Concrete	M20	17/07/2020	24/07/2020	150.24 X 150.82 X 149.51	22658	8.708	420.8	18.6	

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID	:	**CP-2020-11-24-54** **Date: 24/07/2020**
Customer	:	Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.
Address	:	Yelahanka Sub Division, BBMP, Bangalore.
Project Name	:	"Improvements and Asphalting to Roads at Synika Vihara Badavane Main Road in Chowdeshwari Ward No -02 of Yelahanka Sub Division"
Agency	:	Sri. N. Thirunagendra, No:184, Besthara Beedhi, Yelahanka Old Town, Bangalore-560064
Customer's Reference	:	BBMP/EE/YNK.D/EPMT-01/W.O/87/2020-21
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	20-07-20
Customer ID	:	Drain Side Wall Concrete
Sample Type /Size	:	150X150X150 mm
Sample grade/Age	:	M20 / 7 Days Compressive Strength
Reference to BIS codes	:	IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5
Date of test	:	24/07/2020

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Side Wall Concrete	M20	17/07/2020	24/07/2020	151.39 X 151.29 X 150.97	22903	8.277	426.8	18.6	18.5
2	Drain Side Wall Concrete	M20	17/07/2020	24/07/2020	149.26 X 149.27 X 151.69	22280	8.026	414.5	18.6	
3	Drain Side Wall Concrete	M20	17/07/2020	24/07/2020	149.52 X 151.38 X 149.90	22635	8.708	411.6	18.2	

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TEST RESULTS OF GRADATION FOR WMM

Lab ID	:	**CP-RW-2020-11-24-54** **Date: 31-07-20**
Customer	:	Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.
Address	:	Yelahanka Sub Division, BBMP, Bangalore.
Project Name	:	"Improvements and Asphalting to Roads at Synika Vihara Badavane Min Road in Chowdeshwari Ward No -02 of Yelahanka Sub Division"
Agency	:	Sri. N. Thirunagendra, No:184, Besthara Beedhi, Yelahanka Old Town, Bangalore-560064
Customer Reference	:	BBMP/EE/YNK.D/EPMT-01/W.O/87/2020-21
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	29-07-20
Type of Mix	:	WMM (Wet Mix Macadam)
Date of test	:	29-07-20
Oven Dry Weight	:	11000 Grams

IS Sieve Size(mm)	Weight Retained (gm)	Cumulative Weight Retained (gm)	% Cumulative Weight Retained	% Passing	Spec.I.Vide Table 400.13 MORTH Specification
53	0	0	0.0	100.0	100
45	315	315	2.9	97.1	95-100
22.4	2259	2574	23.4	76.6	60-80
11.2	2179	4753	43.2	56.8	40-60
4.75	2251	7004	63.7	36.3	25-40
2.36	1621	8625	78.4	21.6	15-30
0.6	623	9248	84.1	15.9	8-22
0.075	1338	10586	96.2	3.8	0-5

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Certificate No.: TC-5548

TEST REPORT OF AGGEGRATE IMPACT VALUE
IS: 2386 Part IV

Lab ID	:	CP-RW-2020-11-24-54	**Date: 31-07-20**
Customer	:	Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.	
Address	:	Yelahanka Sub Division, BBMP, Bangalore.	
Project Name	:	"Improvements and Asphalting to Roads at Synika Vihara Badavane Min Road in Chowdeshwari Ward No -02 of Yelahanka Sub Division"	
Agency	:	Sri. N. Thirunagendra, No:184, Besthara Beedhi, Yelahanka Old Town, Bangalore-560064	
Customer Reference	:	BBMP/EE/YNK.D/EPMT-01/W.O/87/2020-21	
Source of Sample	:	Sample supplied by Agency	
Sample Condition	:	Satisfactory	
Date of Receipt	:	29-07-20	
Type of Mix	:	Coarse Aggregate for WMM (Wet Mix Macadam)	
Date of test	:	29-07-20	

SLNo	Particulars of observations	Index	TEST 1	TEST 2
1	Total weight of the surface dry sample sample (passing 12.5 mm and retained on 10mm sieve)	A	300.2	300.2
2	Weight of fraction passing 2.36mm sieve After giving 15 blows	B	73.9	74.0
3	weight of fraction retained 2.36mm sieve After giving 15 blows	C	225.9	225.8
4	Total weight of (B+C) is less than the initial weight (Weight A) by more than one gram the result shall be discarded and a fresh test made.	A-(B+C)	0.4	0.4
5	Aggregate impact value	(B/A)*100	24.6	24.7
6	Aggregate impact value (Mean of two tests)	Pecentage	24.6	

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TESTS RESULTS ON STABILITY OF MIX

Lab ID	:	**CP-RW-2020-11-24-54** **Date: 13-08-20**
Customer	:	Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.
Address	:	Yelahanka Sub Division, BBMP, Bangalore.
Project Name	:	"Improvements and Asphalting to Roads at Synika Vihara Badavane Min Road in Chowdeshwari Ward No -02 of Yelahanka Sub Division"
Agency	:	Sri. N. Thirunagendra, No:184, Besthara Beedhi, Yelahanka Old Town, Bangalore-560064
Customer Reference	:	BBMP/EE/YNK.D/EPMT-01/W.O/87/2020-21
Source of Sample	:	Hot Mix Plant, Bangalore
Sample Condition	:	Satisfactory
Date of Receipt	:	10-08-20
Type of Mix	:	DBM (Dense Bituminous Mecadam)
Date of test	:	10-08-20

The results of the tests conducted on the Dense Bituminous Macadam mix sample are as follow

SLNo	Particulars of observations	TEST 1	TEST 2	Secified limits as per MORTH specification table 500-11
1	Marshal Stability at 60°C, KN	11.29	11.82	9KN(Min)
2	Marshal flow at 60°C, mm	3.54	3.87	2-4
3	Percent air Voids	4.56	4.17	3-5
4	Percent Voids in mineral Aggregate(VMA %)	14.54	14.76	13-15
5	Percent Voids filled with Bitumen(VFB %)	68.98	70.28	65-75
6	Density, g/cc	2.42	2.40	–

AE 2
A.E.E

• The results obtained are satisfactory as per standard requirements.

Note:-
The results pertain to the samples received and tested.
All information Furnished by Customer/ Representative
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Technical Manager

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TEST RESULTS OF GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2007)

Lab ID	:	CP-RW-2020-11-24-54 **Date: 19-08-20**
Customer	:	Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.
Address	:	Yelahanka Sub Division, BBMP, Bangalore.
Project Name	:	"Improvements and Asphalting to Roads at Synika Vihara Badavane Min Road in Chowdeshwari Ward No -02 of Yelahanka Sub Division"
Agency	:	Sri. N. Thirunagendra, No:184, Besthara Beedhi, Yelahanka Old Town, Bangalore-560064
Customer Reference	:	BBMP/EE/YNK.D/EPMT-01/W.O/87/2020-21
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	17-08-20
Type of Mix	:	BC-Plant (Bituminous Concrete)
Date of test	:	17-08-20
Oven Dry Weight	:	5000 Grams

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-17(grading-2)
19	0	0	0.0	100.0	100
13.2	89	89	1.8	98.2	90-100
9.5	702	791	15.8	84.2	70-88
4.75	895	1686	33.7	66.3	53-71
2.36	587	2273	45.5	54.5	42-58
1.18	492	2765	55.3	44.7	34-48
0.6	503	3268	65.4	34.6	26-38
0.3	528	3796	75.9	24.1	18-28
0.15	458	4254	85.1	14.9	12-20
0.075	350	4604	92.1	7.9	4-10
PAN	396	5000	100	0.0	0

AE-2

A.E.E

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TESTS RESULTS ON STABILITY OF MIX

Lab ID	:	**CP-RW-2020-11-24-54** **Date: 20-08-20**
Customer	:	Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.
Address	:	Yelahanka Sub Division, BBMP, Bangalore.
Project Name	:	"Improvements and Asphalting to Roads at Synika Vihara Badavane Min Road in Chowdeshwari Ward No -02 of Yelahanka Sub Division"
Agency	:	Sri. N. Thirunagendra, No:184, Besthara Beedhi, Yelahanka Old Town, Bangalore-560064
Customer Reference	:	BBMP/EE/YNK.D/EPMT-01/W.O/87/2020-21
Source of Sample	:	Hot Mix Plant, Bangalore
Sample Condition	:	Satisfactory
Date of Receipt	:	17-08-20
Type of Mix	:	BC (Bituminous Concrete)
Date of test	:	17-08-20

The results of the tests conducted on the Bituminous Concrete mix sample are as follow

SLNo	Particulars of observations	TEST 1	TEST 2	Secified limits as per MORTH specification table 500-11
1	Marshal Stability at 60°C, KN	11.14	11.13	10KN(min)
2	Marshal flow at 60°C, mm	3.52	3.51	2-4
3	Percent air Voids	4.82	4.83	3-5
4	Percent Voids in mineral Aggregate(VMA %)	14.28	14.26	13-15
5	Percent Voids filled with Bitumen(VFB %)	71.87	71.63	65-75
6	Density, g/cc	2.25	2.26	–

AE-2
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* The results obtained are satisfactory as per standard requirements.

Note:-

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TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2011)

Lab ID	:	CP-RW-2020-11-24-54 Date: 28-08-20
Customer	:	Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.
Address	:	Yelahanka Sub Division, BBMP, Bangalore.
Project Name	:	"Improvements and Asphalting to Roads at Synika Vihara Badavane Min Road in Chowdeshwari Ward No -02 of Yelahanka Sub Division"
Agency	:	Sri. N. Thirunagendra, No:184, Besthara Beedhi, Yelahanka Old Town, Bangalore-560064
Customer Reference	:	BBMP/EE/YNK.D/EPMT-01/W.O/87/2020-21
Source of Sample	:	Sample supplied by Agency
Date of Receipt	:	25-08-20
Type of Mix	:	BC (Bituminous Concrete)
Date of test	:	25-08-20

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	A	500	500
2	Weight of the sample After extraction	B	472	471
3	Bitumen percentage	$\frac{A-B}{A} \times 100$	5.60	5.80
4	Average percentage	%	5.7	

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Format No: CP/TF/01

TEST REPORT ON BITUMEN

Lab ID	:	**CP-RW-2020-11-24-54** **Date: 07-08-20**
Customer	:	Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.
Address	:	Yelahanka Sub Division, BBMP, Bangalore.
Project Name	:	"Improvements and Asphalting to Roads at Synika Vihara Badavane Min Road in Chowdeshwari Ward No -02 of Yelahanka Sub Division"
Agency	:	Sri. N. Thirunagendra, No:184, Besthara Beedhi, Yelahanka Old Town, Bangalore-560064
Customer's Reference	:	BBMP/EE/YNK.D/EPMT-01/W.O/87/2020-21
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	05-08-20
Sample Type	:	Bitumen
Reference to BIS codes	:	IS: 1201-1220(1978) (Reaffirmed-2004)
Date of test	:	05-08-20

Test Results

SLno	Name of Test	Result	Requirements as per IS:73-2013
1	Penetration at 25°C , in 1/10th mm	64	60 to 70
2	Softening Point, °C	51.2	Min. 40°C
3	Ductility, cm	98	Min. 75cm
4	Flash point, °C	245	Min. 220°C
	Fire point, °C	272	

* The results obtained are satisfactory as per standard requirements.

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DETERMINATION OF RATE OF SPREAD TACK COAT

Lab ID	:	**CP-RW-2020-11-24-54** **Date: 26-08-20**
Customer	:	Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.
Address	:	Yelahanka Sub Division, BBMP, Bangalore.
Project Name	:	*Improvements and Asphalting to Roads at Synika Vihara Badavane Min Road in Chowdeshwari Ward No -02 of Yelahanka Sub Division*
Agency	:	Sri. N. Thirunagendra, No:184, Besthara Beedhi, Yelahanka Old Town, Bangalore-560064
Customer Reference	:	BBMP/EE/YNK.D/EPMT-01/W.O/87/2020-21
Sample Condition	:	Satisfactory
Date of Receipt	:	25-08-20
Type of Mix	:	Tack coat
Date of test	:	25-08-20

SLNo	Determination	Unit	TEST 1	TEST 2
1	Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30
2	Area of Plate (a)	Sq.mtr	0.09	0.09
3	Initial Wt of empty Plate (b)	Kg	0.78	0.748
4	Final weight of plate after application of tack Coat (c)	Kg	0.803	0.771
5	Weight of tack Coat (d=c-b)	Kg	0.023	0.023
6	Rate of spread of tack coat	Kg/sq.m	0.256	0.256
7	Average	Kg/sq.m	0.256	
8	Specified Limit	Kg/sq.m	0.250 Kg/sq.m	

* The results obtained are satisfactory as per standard requirements.

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